

Cumulative Index 1990

Volume 9

<i>January</i>	FRACTURES , pages 1-228
<i>April</i>	NEUROVASCULAR INJURIES , pages 229-522
<i>July</i>	MENISCAL INJURIES , pages 523-730
<i>December</i>	KNEE BRACING , pages 731-881

Note: Page numbers of article and issue titles are in **boldface** type.

- Acromioclavicular joint injury(ies), 31
 separation, 36
 treatment of, 34
- Acromion, epiphysis of, unfused, 32
 fractures of, 31-32
- Adductor canal outlet syndrome, 464-465
- Adolescents, meniscal repair in, 675-677
- Adults, and children, meniscal injuries in, 661-680
- Adventitial cystic disease of popliteal artery, 461-464, 465
- Aerobic conditioning, in injuries of lumbar spine, 434-436
- Allograft, meniscal, in posterior cruciate and posterolateral insufficiencies, 692-693
- Anatomic axis machine, for knee rehabilitation, 800-801
- Aneurysm(s), traumatic, of lower extremity, 456-457, 458
- Ankle, fracture(s) of, 164-165
 displaced supination external rotation, 8-9
 in cross country skiers, 221
 "occult malunion", 164-165
 posterior compartment, 169-171
 neuropathies of, in athletes, 489-509
 diagnosis of, 490
 treatment of, 490
 problematic fractures and dislocations of, 163-181
 sprain, persistent pain after, 167, 169-170
- Anterior cruciate ligament, acute injuries of, 682-686, 687, 688
 deficiency, 628-629, 631
 chronic, 686-690
 functional braces in, 806-809
 meniscectomy in, degeneration following, 567
 reconstructions, continuous passive motion following, 801
 isokinetics following, 802
 knee extension exercises following, 802
 rupture of, medial collateral ligament in, 836
 tear(s) of, meniscal tears in, 567-568
 physical examination in, 568
- Anterior cruciate ligament braces, advantages of, 795
 energy requirements for, 773-775
 force plate analysis and, 791-794
 functional analysis of, 771-797
 history of, 771-772
 kinematic changes with, 783-791
 muscle firing patterns and proprioception with, 777-783
 performance testing of, 775-777
 subjective functional analysis of, 772-773
- Anterior interosseous nerve syndrome, 351-355
- Antibiotics, in infected nonunion of tibia, 159
 prophylactic, in arthroscopic meniscal repair, 615
- Artery(ies). See also specific arteries.
 of lower extremity, 449-451
 of upper extremity, problems of, 379-382
- Arthritic spurs, 720
- Arthritis, arthroscopic meniscectomy in, 636

- Arthrography, in knee injury, 671
 in meniscal cyst, 716, 717
 of knee, 561-566
 advantages of, 563-564
 and arthroscopy, diagnostic accuracies of, 565
 relative strengths and weaknesses of, 564
 double-contrast technique of, 561-562
 history of, 561
 menisci of, problem areas hindering, 564
- Arthroscope, placement of, for knee arthroscopy, 623, 624
- Arthroscopy, and magnetic resonance imaging, of knee, compared, 554-558
 and partial meniscectomy, 635-637
 arthrography and, diagnostic accuracies of, 565
 relative strengths and weaknesses of, 564
- for meniscal repair, 589-607. See also *Meniscectomy, arthroscopic*.
 advantages of, 598, 610
 assessment of meniscal edges for, 598
 classification of healing in, 604
 complications in, 609-617
 experience of arthroscopic surgeons and, 613
 rate of, 612-613
 statistics on, 610-613
 types of, 611, 612
 evaluation of tear for, 598
 fibrin clot for, 598-599
 fibroarthrosis and, 614
 future directions in, 605
 healing rate following, 609-610
 infections and, 615
 inside-out technique in, 599-600
 instrument failure in, 614-615
 knowledge of neurovascular structures for, 613
 outside-in technique in, 600-602, 603, 614
 peroneal nerve and, 613-614
 prophylactic antibiotics in, 615
 rehabilitation following, 602-604
 results of, 604-605
 successful, factors contributing to, 604
 technical considerations in, 614
 thromboembolic disease in, 615
 in tight knee, 626-627
 of knee, degenerative changes following, 619
 in "difficult tight" knee, 620
 "scuffing" in, 619
 technique of, 621-626
 techniques to visualize meniscus for, 627-628
 techniques of, to improve access to lesions of posterior meniscus, 619-632
- Atlas, fractures of, 19
- Axillary artery occlusion, 379-380
- Axillary nerve, anatomy of, 334
 injury of, clinical presentation of, 334-335
 treatment and prognosis in, 335-336
- Axillary subclavian vein, thrombosis of, 382-386
- Axonotmesis, 318, 344-345
- Back pain, low. See *Low back pain*.
- Ballet, lumbar spine injuries in, 438
- Baseball, catching in, vascular injury associated with, 412-413
 lumbar spine injuries in, 444-445, 446, 447
 pitching hand in, vascular problems in, 413-415
 vasospastic disorders of index fingers in, 415
- Bennett's fracture, 100-103
- Blood clot preparation, for meniscal repair, 573-574
- Blood supply, of meniscus, 590-591
- Blood vessels, response of, to meniscal injuries, 591-593, 594
- Bone grafting, in fractures, 5-6
 in infected nonunion of tibia, 153, 155-157
 in nonunion of tibia, 142-146
- Bone remodeling, bone stress as continuum from, 189
- Bone scanning, technetium, in metatarsal stress fractures, 176
- Bone scans, in stress fracture, 189, 195
- Bone(s), neoplasms of, knee pain in, 643-644, 646
- Boots, rigid ski, 218-219
- Bowler's thumb, pathophysiology of, 401-402
 physical examination in, 402
 treatment of, 402-403
- Boxer's fracture, 97-98
- Brace(s), following arthroscopic meniscal repair, 604
 knee. See *Knee brace(s)*.
- Brachial neuropathy, acute, 323-325
 electromyography examination in, 242-243
- Brachial plexus, anatomy of, 311-315
 burner injuries of, 319-323
 compression injuries of, 325-326
 injuries of, 311-329
 adjunctive testing in, 316-318
 classification of, 318-319
 patterns of, 319
 physical examination in, 315-316

- major branches of, 315
- Buerger's disease, 465-466
- Burner syndrome, 319-323
- Burning dysesthesia, electromyography examination in, 241-242
- Bursae, inflamed, about knee, 720
- Calcaneus, anterior process of, fractures of, 171-173
 - stress fractures of, 173, 203-204
- Capitellum, fractures of, 51
- osteochondritis dissecans of, 51-52
- Carpal tunnel syndrome, 390-392
 - clinical presentation of, 392-394
 - differential diagnosis of, 394
 - rehabilitation following, 395
 - treatment of, 394-395
- Carpus, fractures of, 104-108
- Cartilage, articular, disease of, failure of meniscectomy in, 651-652
 - presentation in older patient, 651-652
 - effect of blunt trauma on, 642
- Cast(s), playing, 86
- Casting, in first metatarsophalangeal joint complex injuries, 179
 - in tarsal navicular stress fractures, 173-175
- Cervical spine, anatomy of, 263-264
 - congenital stenosis of, 22
 - dislocations of, management of, 18-22
 - facet dislocation of, 26-27
 - fracture(s) of, diagnostic modalities in, 14-18
 - in athletes, 13-29
 - initial management of, 13-14
 - management of, 18-22
 - return to competition following, 22-28
 - injuries of, and fracture-dislocation injury patterns, 268-270
 - and neurologic implications, 263-278
 - case study of, 275-277
 - clinical and radiologic evaluation in, 264-267, 268
 - return to activity following, 273-275
 - treatment of, 271-273
 - lower, lesions of, 20
 - mid-, lesions of, 20
 - stenosis of, with cord neurapraxia and transient quadriplegia, 279-296
 - discussion of, 289-295
 - evaluation in, 281-289
 - subacute instability of, 21-22
 - subluxation of, in cervical injury, 27-28
 - management of, 18-22
 - upper, lesions of, 18-20
- Child(ren), fractures of condyle in, 45, 46
 - meniscal injuries in, 661-680
 - meniscal repair in, 675-677
 - stress fractures in, 190-192
- Chondrocalcinosis, definition of, 652
 - postmeniscectomy, 652, 654
- Clavicle, distal, fractures of, 32
- Clay shoveler's fracture, 21
- Collagen fibers, orientation in meniscus, 527
- Compartment syndromes, clinical evaluation in, 475-479, 480
 - etiology and pathophysiology of, 471-472
 - in athletics, 471-487
 - surgical technique in, 479-484
- Compression fractures, of vertebral body, 21
- Compression injuries, of brachial plexus, 325-326
- Compression plating, in fracture stabilization, 3
 - in nonunion of tibia, 151, 152-153
 - in open fractures, 5
- Compressive neuropathies, electrodiagnostic studies in, 346-347
 - locations of, 346
 - of median and radial nerves at elbow, 343-363
 - classifications of, 344-346
 - diagnosis of, 343
- Computed tomography, in cervical spine fractures, 16-18
 - in internal derangements of knee, 579
 - in meniscal cyst, 716, 717
- Condyle(s), fractures of, 44-47, 75-79
 - in children, 45, 46
- Coracoid process, stress fractures of, 192
- Crystal deposition disease, meniscectomy in, 652
- Cyclist's palsy, 399-400
- Cyst(s), ganglion, 720
 - meniscal, 707-725
 - clinical presentation of, 714-715
 - clinical series of, review of, 720-722
 - diagnosis of, 716-718, 719
 - differential diagnosis of, 719-721
 - etiology of, 710-711
 - historical review of, 708-710
 - in disease processes, 707
 - in meniscal tears, 707, 713-714
 - incidence and distribution of, 710
 - pathology of, 711-714
 - physical examination in, 715-716
 - symptoms of, 714-715
 - treatment of, 722-723
 - popliteal, 720
- Cystic disease, adventitial, of popliteal artery, 461-464, 465
- Deep venous thrombosis, 466-467
- Digital nerve neuropathy, 404
- Digital nerve syndromes, 401

- Digits, ischemia of, repetitive hand trauma and, 411-415
- Dislocation(s), LisFranc, 175-176
- Dreaded black line, 200, 201
- Elbow, anatomy of, 40-42
and forearm, fractures of, 59-83
dislocations of, 54-55
fractures of, common, 71
 complicated, in athletes, 39-58
Little Leaguer's, 49, 50
median and radial nerves at, compressive neuropathies of, 343-363
problems of ulnar nerve at, 365-377
tennis, 357-361
- Electrical stimulation, in nonunion of tibia, 151
- Electrodiagnostic testing, in anterior interosseous syndrome, 353
in brachial plexus injuries, 317
in compressive neuropathies, 346-347
in ulnar nerve problems, 370
of neurologic injuries, 229-245
- Electromyography examination, experience with, 237-240
in acute brachial neuropathy, 242-243
in burners and stingers, 241-242
in rotator cuff tears, 243-244
in sports injuries, 229-230
limitations of, 235-237
needle electrode examination in, 233-234
nerve conduction studies in, 230-233
of shoulder girdle, 240-241
pathophysiologic/clinical correlations in, 234-235
- Entrapment neuropathy syndrome, 404
- Epicondyles, fractures of, 48-51
- Epidemiologic studies, of medial collateral ligament injuries, 845-846
- Exercise(s), knee extension, following anterior cruciate ligament reconstruction, 802
stretching and strengthening, in injuries of lumbar spine, 429-434
- Extremity(ies), malalignment of, results of meniscectomy in, 645-648
- Fatigue fractures, 186-188
- Femoral neck, stress fractures of, 195-196
- Femoral physis, distal, fractures of, 135-136
- Femoral shaft, fractures of, 222, 223
 mid-diaphyseal, 9-10
stress fractures of, 196-197
 case histories of, 113-114
 clinical data on, 112
 distribution of, 113
 in athletes, 111-119
- Femur, supracondylar fractures of, 135
- Fibrin clot, for arthroscopic meniscal repair, 598-599
- Fibroarthrosis, and arthroscopic meniscal repair, 614
- Fibula, stress fractures of, 201-202
- Finger(s), index, vasospastic disorders of, associated with baseball, 415
- Foot(Feet), fractures of, 179-180
neuropathies of, in athletes, 489-509
 diagnosis of, 490
 treatment of, 490
problematic fractures and dislocations of, 163-181
- Football, lumbar spine injuries in, 440
prophylactic knee braces in, studies of, 853-870
- Forearm, anatomy of, 59-60, 474, 475
and elbow, fractures of, 59-83
both bone fractures of, 62-64
compartment syndrome of, etiologies of, 478
 rehabilitation following, 484-485
 surgical technique in, 482-484
fractures of, hardware removal in, 69-71
stress fractures of, 194-195
- Fracture of necessity, 60-61
- Fractures, 1-228. See also specific sites and types of.
care, complications of, 6
implant removal following, 7-8
in lower extremity, 454-455
in skiing athlete, 215-223
in sports, principles of management of, 1-11
LisFranc, 175-176
management of, cases illustrating, 8-10
of foot and ankle, in athletes, 163-181
of lumbar spine, 423-424
of shoulder, difficult sports-related, 31-37
open, management of, 4-5
problematic, and dislocations, in foot and ankle, 163-181
return to activity following, 7
stabilization, choices in, 2-3
stress. See *Stress fracture(s)*.
- Fracture-dislocations, patterns of, injuries of cervical spine and, 268-270
- Galeazzi fracture, 60-61
- Glasgow coma score, 253
- Glenoid, fractures of, 34-36
- Golf, lumbar spine injuries in, 441-444
- Golgi receptors, 513
- Great toe, stress fracture of, 208
- Guyon's canal, anatomy of, 397, 409
- Guyon's canal syndrome, 396-399

- Gymnastics, lumbar spine injuries in, 438
- Hamate, hook of, fractures of, 106-108
- Hand, arterial anatomy of, 404-406, 407
neurovascular injuries in, 389-417
physical examination and laboratory testing of, 406-408
pitching, vascular problems in, in baseball, 413-415
repetitive trauma to, and digital ischemia, 411-415
sports-related fractures of, 85-109
vascular syndromes of, 404-408
- Handball, repetitive trauma lesions in, 411-412
- Head injuries, closed, 247-261
acute, 247-250
chronic, 250
delayed complications of, 257
emergency management in, 255-257
evaluation in, 251-254
prevention of, 250-251
repetitive mild, effects of, 258-259
return to competition following, 258
- Humerus, distal, fracture(s) of, 42-43, 74-75
intercondylar fractures of, 47-48
stress fractures of, 192-193
- Hypothenar hammer syndrome, 408-411
differential diagnosis of, 411
pathophysiology of, 409-410
treatment of, 411
- Immobilization, in orthopedic disorder, 799
in shoulder injuries, 32
- Implant(s), removal of, following fracture treatment, 7-8
- Incision(s), for meniscal repair, 569-571, 582, 583
- Infection(s), arthroscopic meniscal repair and, 615
in nonunion of tibia, 153-159
prevention of, in open fractures, 4
- Instruments, failure of, in arthroscopic meniscal repair, 614-615
- Intercondylar eminence, fractures of, 131-133
- Interdigital neuroma, 490-493
- Intermedullary nailing, in malunion and nonunion of tibia, 144, 145, 146, 147-150
- Internal fixation, in open fractures, 5
- Interosseous nerve, disorders associated with, 351-357, 358
- Interphalangeal joint, proximal, fracture subluxation of, 94-97
- Joint distractor, for meniscal repair, 571
- Joint(s), functions of, 512-514
injury of, alterations in proprioception in, 514-515
joint innervation in, 511-517
innervation of, in joint injury, 511-517
mechanoreceptors and, 512-514
neuroanatomy of, 511-512
- Jones fractures, 177, 178
- K-wires, in fracture stabilization, 2, 89, 90, 93-94, 96-97, 99, 101-103, 104
in LisFranc fractures and dislocations, 176
- Kiloh-Nevin syndrome, 351-355
- Knee, abnormal rotations of, 744
anterior cruciate ligament of, acute injuries of, 682-686, 687, 688
chronic deficiency of, 686-690
complaints, physical examination in, 643, 644
cruciate-deficient, 628-629, 631
acute, incidence of meniscal injuries in, 681
chronic, incidence of meniscal injuries in, 681-682
meniscus injuries in, 681-694
developmental anatomy of, 661-662
"difficult tight", arthroscopy in, 620
dislocation of, assessment and treatment of, 453-454
classification of, 452-453
incidence of, 452
fractures about, in sports, 121-139
impact response of, with prophylactic bracing, 832-835, 838-839
injuries of, anatomy and pathomechanics of, 743-745
internal derangement of, diagnostic tests in, 579
pain in, in bone neoplasms, 643-644, 646
in lesions of lumbar spine, 643, 645
in patellofemoral malalignment, 813
pain referred to, failure of meniscectomy in, 643, 644
posterior cruciate ligament of, injuries of, 691-692
posterolateral instabilities of, 691-692
reflex sympathetic dystrophy of, meniscectomy in, 648-651
signs of, 650
stability of, 744
surrogate model of, for evaluation of braces, 753-756
tight, arthroscopy in, 626-627
definition of, 626
problems mimicking, 626
unstable, meniscal repair in, 594

- Knee brace(s), ACL. See *Anterior cruciate ligament braces*.
 and knee impact response, with prophylactic bracing, 832-835, 838-839
 derotation, 736-737
 during rehabilitation, 799-810
 classes of, 800
 types of, 803-808
 for comparative surrogate performance testing, 756-757, 848
 functional, 736-738
 choosing of, 743-750
 effect of, on collateral ligaments, 845
 for anterior cruciate ligament-deficient knee, 806-809
 hinge design for, 748
 leverage applied by, 747
 material properties for, 747-748
 mechanical factors affecting selection of, 746-748
 mode of function of, 746
 patient factors affecting choice of, 748-749
 history and classification of, 731-741
 patellar, 815-819
 postoperative, biomechanical and physiologic factors affecting, 766-768
 prophylactic, 732-735
 effect of, on collateral ligaments, 844
 hazards of, 865
 in vitro assessment of function of, 823-841
 evaluation of brace/knee impact response in, 832-835, 838-839
 preliminary studies of, 825-830
 surrogate development and validation in, 830-832
 laboratory evaluation of performance of, 751-762
 methods of surrogate development for, 753-756
 results of, 756-760
 mandated, in football, cost of, 866
 single-sided hinged, 853
 studies of, in football, 853-869
 bias in, 854
 brace use in, 856-859, 865
 compliance in, 859
 conclusions of, 867-868
 confounding in, 854-855
 consequences of wearing brace and, 864
 experimental and control groups in, 862-863
 exposure to injury and, 855, 857
 exposures of braced and unbraced groups in, 863-864
 generalizing results of, 855, 856
 history of, 853-854
 in future, 867
 injuries and, 859-861
 injury reporting and, 860
 medial collateral ligament injuries and, 864-865, 866
 results of, 861-862
 rehabilitative, 735-736
 breakdown, 805-806
 comfort of, 804
 effect of, on collateral ligaments, 844-845
 for control of range of motion, 803
 for protection from falls, 804
 problems associated with, 804-805
 sizing of, 803-804
 Knee bracing, 731-881
 cadaver biomechanical evaluation of, 846-847
 effect of, on collateral ligaments of knee, 843-851
 for patellar instability, 813-821
 future of, 768-769
 patellofemoral, 809
 position statement concerning, 848-849
 postoperative, 763-770
 review of current literature on, 765-766
 role of, 763-765
 "Lag" fixation, in fracture stabilization, 2
 Leg, anatomy of, 473-474
 compartment syndrome of, etiologies of, 476-477
 rehabilitation following, 484
 surgical technique in, 479-482, 483
 symptoms of, 475-476
 Leg holding device, for knee arthroscopy, 622, 623
 Ligament(s), anterior cruciate. See *Anterior cruciate ligament*.
 injuries of, with meniscal injuries, 665
 medial collateral. See *Medial collateral ligament*.
 posterior cruciate, injuries of, 691-692
 LisFranc fractures and dislocations, 175-176
 Little Leaguer's elbow, 49, 50
 Low back pain, factors predisposing to, 419-420
 in athletic activity, 419
 Lower extremity, blunt trauma to, 455-456
 fractures in, 454-455
 nontraumatic vascular problems of, 457-467
 traumatic aneurysms of, 456-457, 458
 traumatic injury to, 451-452
 vascular anatomy of, 449-451
 vascular problems in, in athletes, 449-469
 Lumbar spine, anatomy of, 420-421
 biomechanics of, 423-424
 fractures of, 423-424

- injury(ies) of, aerobic conditioning in, 434-436
- categories of, 426-427
 - history taking in, 425-426
 - in athlete, 419-448
 - in different sports, 437-446
 - mechanisms of, 423
 - nonoperative care in, 427-429, 435
 - operative care in, 436-437
 - trunk stretching and strengthening program in, 429-434
- lesions of, knee pain in, 643, 645
- pain in, diagnosis of, 421
- etiology of, 421
- physical examination of, 424-427
- Magnetic resonance imaging, in brachial plexus injuries, 316-317
- in cervical spine fractures, 18
 - in internal derangements of knee, 579
 - in meniscal cyst, 716-719
 - of meniscus(i), 551-559, 670-671
- Mallet fracture with volar subluxation, 88-89
- Mechanical axis machine, for knee rehabilitation, 800-801
- Medial collateral ligament, bracing of, in vitro testing of, 846-848
- effect of bracing on, 843-851
 - injuries of, bracing in, 824, 837
 - epidemiologic studies of, 845-846
 - mechanism of, 844
 - studies of prophylactic knee braces and, 864-865, 866
- instability, in vivo testing of braces in, 848
- sprain of, mimicking torn meniscus, 668-670
- Medial malleolus, stress fractures of, 202-203
- Median nerve, 314
- anatomy of, 390
 - at elbow, compressive neuropathies of, 343-363
 - compression of, 347-355
- Meniscal allograft, in posterior cruciate and posterolateral insufficiencies, 692-693
- Meniscal injuries, 523-730
- Meniscectomy, arthroscopic, failure of, extra-articular, 643-651
- intra-articular, 651-656
 - nonmedical causes of, 656
 - in arthritis, 636
 - in discoid meniscus, 722
 - partial. See *Meniscectomy, partial, arthroscopic*.
 - results of, 633-639
 - complete, in discoid meniscus, 703
 - in children, 672-674
 - in malalignment of extremities, 645-648
 - in meniscal tears, 577
 - joint stability and, 530
 - open total, history of, 633-634
 - partial, 532-533, 585-586, 589
 - arthroscopic, 533, 610
 - goals of, 620
 - guidelines for, 620-621
 - lateral, 637
 - medial, 636
 - piecemeal excision in, 621
 - portals for, 621, 625
 - problems associated with, 630-631
 - results of, 637
 - arthroscopy and, 635-637
 - failed, 641-659
 - definition of, 641
 - in children, 674-675
 - osteoarthritis following, 637-638
 - subtotal, in discoid meniscus, 703-704
 - total, 532, 585
 - degenerative changes following, 673-674, 679
- Meniscotibial sprains, treatment of, 677
- Meniscus(i), anatomy and biomechanics of, 523-538
- arthroscopic repair of, 589-607. See also *Arthroscopy*.
 - blood supply of, 590-591, 661
 - circulation of, 527-528
 - collagen bundles of, 661-662
 - collagen fiber orientation in, 527
 - common lesions of, 642
 - cysts of. See *Cyst(s), meniscal*.
 - development and substructure of, 578
 - discoid, 666, 667, 695-706
 - arthroscopic meniscectomy in, 722
 - classification of, 695, 696, 697, 698
 - clinical findings in, 701-702
 - etiology of, 696-697
 - history of, 695-696
 - pathology of, 697-701
 - treatment of, 702-704
 - discoid lateral, 655-656
 - discoid torn, treatment of, 677-678
 - functions of, 528-532, 533, 578, 641-642, 681
 - gross anatomy of, 524-529
 - injuries of, 523-725
 - classification of, 595-597
 - clinical presentation of, in children, 663-664
 - data for studies of, 539-540
 - differential diagnosis of, in children, 665-670
 - discussion of studies of, 547-549
 - epidemiology of, 662-663
 - evaluation of, in children, 670-672
 - findings in, in children, 664

Meniscus(i) (*Continued*)

- history in, in adolescents, 664
- in children and adults, 661-680
- in cruciate-deficient knee, 681-694
- incidence of, with aging, 662-663
- landscape of, 539-550
- ligamentous injuries with, 665
- near capsular margin, 676
- pathology of, 552-554
- patterns of, 549
- rehabilitation following, in children and adolescents, 678
- results of studies of, 540-547
- symptoms of, 664
- treatment of, 532-533
- treatment options in, in children, 672-678
- vascular response to, 591-593, 594
- joint congruity and, 530
- joint lubrication and, 532
- joint nutrition and, 532
- joint stability and, 530-531
- limitation of extremes in flexion and extension by, 531-532
- load transmission by, 528-529
- magnetic resonance imaging of, 551-559, 670-671
- pitfalls of, 553-554
- sensitivity and specificity of, 554-558
- technical considerations in, 551-552
- medial and lateral, attachments of, 525
- differences between, 629-630
- neuroanatomy of, 528
- normal anatomy of, 552, 562
- parameniscal synovial and tear surface abrasion and, 572
- posterior, lesions of, arthroscopic techniques to improve access to, 619-632
- red-red tears of, 595, 597
- red-white tears of, 595, 596
- repair of, 568-569
 - basic science of, 591-593
 - blood clot preparation for, 573-574
 - complications associated with, 575, 585
 - contraindications to, 576
 - fascia sheath technique of, 573
 - history of, 609
 - in children and adolescents, 675-677
 - in cruciate-deficient knee, 682
 - incision for, 582, 583
 - indications for, 579-580, 593-597
 - instrumentation for, 569
 - joint distractor for, 571
 - open, 577-587, 597, 609
 - portals for, 571
 - posterior incisions for, 569-571
 - postoperative care in, 574-575
 - recent increase in, 610
 - rehabilitation protocol in, 584
 - results of, 584-585

- technique of, 580-583
- resection of. See *Meniscectomy*.
- salvage of, current status of, 567-576
- shock absorption by, 529
- stress reduction by, 529-530
- structure of, 526-527
- suturing of, 570, 572-573
- tear(s) of, in anterior cruciate ligament tears, 567-568
 - incidence and morphology of, 642
 - meniscectomy in, 577
 - patterns of, in children, 665
 - prevention of, 567-568
 - repair of. See *Meniscus(i)*, *repair of*.
 - spontaneous healing of, 665
 - sports associated with, 663
 - types of, 578-579
- techniques to visualize, for arthroscopy, 627-628
- white-white tears of, 595-596
- Metacarpal shaft fractures, 98-99
- Metacarpal(s), fifth, base of, fracture of, 103-104, 105
- Metatarsal(s), delayed union of, 207
- neck and shaft of, fractures of, 178-179
- nonunion of, 207
- proximal fifth, fractures of, 177-178
- stress fractures of, 176-177, 205-208
 - acute, 206-207
- Metatarsophalangeal joint complex, first, injuries of, 179
- Monteggia fracture(s), 64-67
 - reverse, 229
- Musculocutaneous nerve, anatomy of, 337-338
 - injury of, clinical presentation of, 338
 - treatment and prognosis in, 339
- Nailing, intramedullary, in open fractures, 3
- Nails, flexible, in tibial fractures, 220-221
- Neck, hyperextension injury of, 24-26
- Needle electrode examination, in electromyography examination, 233-234
- Needle(s), spinal, to bring meniscus forward, 628, 630
- Neoplasm(s), bone, knee pain in, 643-644, 646
- Nerve conduction studies, in electromyography examination, 230-233
- Nerve entrapment syndromes, 389-390
- Nerve(s). See specific sites and types of.
- Neurapraxia, 318, 344
 - cord, cervical spine stenosis with, 279-296
- Neurologic examination, screening, 254
- Neuroma, interdigital, 490-493
- Neuropathy(ies), compressive. See *Compressive neuropathies*.
- of foot and ankle in athletes, 489-509

- diagnosis of, 490
- treatment of, 490
- Neurotmesis, 318-319, 345
- Neurovascular injuries, 229-522
 - in wrist and hands of athletes, 389-417
- Neurovascular structures, knowledge of, for arthroscopic meniscal repair, 613
- "Nightstick" fracture, 67, 68

- Odontoid fractures, types of, 19-20
- Olecranon, fractures of, 53-54, 79-81
 - stress fractures of, 194
- Open management, in fractures, 4-5
- Orthoses, in fractures of hand and wrist, 85, 86, 87, 88
- Os calcis, stress fractures of, 203-204
- Osgood Schlatter's disease, and tibial articular surface fractures, differential diagnosis of, 128
- Osteoarthritis, traumatic, following partial meniscectomy, 637-638
- Osteochondral fractures, of knee, 122-125
 - clinical presentation of, 124
 - etiology of, 124
 - prognosis in, 125
 - treatment of, 125
- talar dome, 165-168
- Osteochondritis dissecans, 165-168
 - mimicking torn meniscus, 668
 - of capitellum, 51-52
- Osteonecrosis, pain in minimal trauma in, 653
- Osteotomy, fibular, in nonunion of tibia, 151-152
- Outlet syndrome, adductor canal, 464-465

- Pacinian corpuscle, 513
- Passive motion, continuous, in orthopedic disorder, 800
- Patella, anatomy of, 813-814
 - biomechanics of, 814
 - fractures of, 125-127
 - complications of, 127
 - etiology of, 126
 - treatment of, 126-127
 - instability of, anatomic factors predisposing to, 814
 - braces for, 816
 - bracing for, 813-821
 - treatment of, 814-815
 - stress fractures of, 197-198
 - subluxation of, medial joint line symptoms in, 653
- Patellofemoral bracing, 809
- Patellofemoral joint malalignment, pain in, 813
- Patellofemoral pathology, failed meniscectomy in, 653
- Pelvis, stress fractures of, 208-209
- Peripheral nerve injuries, of shoulder, 331-342
- Peripheral nervous system, lesions of, electromyography examinations in, 229-244
- Peroneal nerve, and arthroscopic meniscal repair, 613-614
 - deep, entrapment of, 502-506
 - superficial, entrapment of, 500-503
- Phalanges, fractures of, articular, 92-94
 - nonarticular, 90-92
- Physical examination, in knee complaints, 643, 644
 - in meniscal cyst, 715-716
 - in tears of anterior cruciate ligament, 568
- Piedmont fracture, 60-61
- Pitching hand, in baseball, vascular problems in, 413-415
- Plantar nerve, lateral, anatomy of, 493-494
 - entrapment of, 494-495
 - medial, 499-500
- Plaster of Paris banding, for knee bracing, 732
- Plate(s), removal of, in forearm fractures, 69-71
- "Playing casts," 86
- Plicae, thickened, mimicking torn meniscus, 666-667, 668, 669
- Pole vaulting, lumbar spine injuries in, 439
- Popliteal artery, adventitial cystic disease of, 461-464, 465
- Popliteal artery entrapment syndrome, 459-461, 462, 463
- Posterior cruciate ligament, injuries of, 691-692
- Posterior interosseous nerve syndrome, 356-357, 358
- Posterolateral instabilities, of knee, 691-692
- Pronator syndrome, 347-351
- Pseudogout, definition of, 652
- postmeniscectomy, 652
- Pulmonary embolism, as fracture complication, 7

- Quadrilateral space syndrome, 381-382
- Quadruplegia, transient, in cervical spine stenosis, 279-296

- Radial head, fractures of, 52-53, 71-74
- Radial nerve, 314
 - at elbow, compressive neuropathies of, 343-363
 - compression of, 355-361

- Radial nerve (*Continued*)
 at wrist, 400-401
 Radial tunnel syndrome, 357-361
 Radiograph(s), following meniscectomy in children, 673
 in brachial plexus injuries, 316-317
 in cervical spine fractures, 14-16
 in cervical spine injuries, 264-267, 268
 in stress fracture, 188-189
 of meniscal cyst, 716
 Radius, distal, fractures of, 60-61
 fractures of, displaced mid-diaphyseal, 9
 stress fractures of, 194-195
 Range of motion, control of, rehabilitative knee braces for, 803
 early, in orthopedic disorder, 800, 801
 Receptors, joints and, 513-514
 Reflex sympathetic dystrophy, of knee, meniscectomy in, 648-651
 Rehabilitation, following arthroscopic meniscal repair, 602-604
 following fracture, 7-8
 following repair of meniscal injuries, 574-575
 knee braces during, 799-810
 of upper-extremity injuries, 68-69
 Resuscitation, on-field, in head injuries, 256
 Rolando's fracture, 103
 Root avulsions, of shoulder, 326-327
 Rotational sports, lumbar spine injuries in, 441-444
 Rotator cuff tears, electromyography examination in, 243-244
 Ruffini's ending, 513
 Runners, female, stress fractures in, 190
 Running, lumbar spine injuries in, 440-441
- Scaphoid fractures, 104-106
 Scapula, body of, fractures of, 36
 Scar tissue, in response to meniscal injury, 591-592, 593, 594
 Screw-home motion, meniscus and, 531
 Sesamoids, great toe, stress fracture of, 208
 stress fractures of, 179
 Shoulder, fracture(s) of, difficult sports-related, 31-37
 fracture-dislocation of, 36-37
 peripheral nerve injuries of, 331-342
 root avulsions of, 326-327
 Shoulder girdle, electromyography examination of, 240-241
 Skiing, fractures in, 215-223
 incidence of, 215-216, 217, 218
 tibial articular surface, 132, 133, 134
 treatment of, 216-223
 Snapping knee syndrome, 666, 667, 704
 Soft tissues, postoperative knee bracing and, 766
- Spinal accessory nerve, anatomy of, 339
 injury of, clinical presentation of, 339
 treatment and prognosis in, 339-340
 Spinal column, biomechanical functioning of, 424
 Spinal cord, neurapraxia of, in stenosis of cervical spine, 279-296
 Spine, cervical. *See Cervical spine.*
 lumbar. *See Lumbar spine.*
 Splint, knee, 731
 Spondylolisthesis, 421-422
 Spondylolysis, 421-422
 Sprain(s), meniscotibial, treatment of, 677
 Stabilization, of fractures, choices in, 2-3
 Stingers, electromyography examination in, 241-242
 Stress fracture(s), 183-211
 diagnosis of, 188-189
 epidemiology of, 184
 femoral, 195-197
 femoral shaft, case histories of, 113-114
 clinical data on, 112
 distribution of, 113
 in athletes, 111-119
 historical perspective on, 183-184
 in children, 190-192
 in women athletes, 190
 mechanisms of injury in, 184-188
 of calcaneus, 173, 203-204
 of coracoid process, 192
 of fibula, 201-202
 of forearm, 194-195
 of great toe, 208
 of humerus, 192-193
 of medial malleolus, 202-203
 of metatarsals, 176-177, 205-206
 of olecranon, 194
 of os calcis, 203-204
 of patella, 197-198
 of pelvis, 208-209
 of sesamoids, 179
 special considerations in, 190-192
 specific fracture considerations in, 192-209
 tarsal navicular, 173-175, 204-205
 tibial, 198-201
 treatment of, 192
 Styloid fractures, extra-articular, 178
 Subclavian artery(ies), anatomy of, 378, 379, 380
 laceration of, 381
 Supracondylar fractures, 43-44
 Suprascapular nerve, anatomy of, 331-332
 injury of, clinical presentation of, 332-333
 treatment and prognosis in, 333-334
 Sural nerve entrapment, 506-508
 Suturing, of meniscus, 570, 572-573
- Talar dome osteochondral fractures, 165-168

- Talus, lateral process of, fractures of, 168-169
- Tarsal navicular stress fractures, 173-175, 204-205
- Tarsal tunnel, anatomy of, 495-496
- Tarsal tunnel syndrome, 496-499
anterior, 504
- Technetium bone scanning, in metatarsal stress fractures, 176
- Tennis, lumbar spine injuries in, 446
- Tennis elbow, 357-361
- Thoracic nerve, long, anatomy of, 336
injury of, clinical presentation of, 336-337
treatment and prognosis in, 337
- Thoracic outlet syndrome, 297-310, 383-385
definition of, 297-298
diagnosis of, 303-307
etiology of, 298-303
symptoms of, 297-298
treatment of, 307-309
- Thromboembolic disease, in arthroscopic meniscal repair, 615
- Thrombosis, venous, axillary subclavian vein, 382-386
deep, 466-467
- Thumb, anatomy of, 401
Bowler's, 401-402
- Tibia, diaphyseal fracture of, 219, 220
malunion of, and nonunion of, management of, 141-161
definitions in, 141-142
treatment of, 146, 159-160
nonunion of, bone grafting in, 142-146
definitions in, 142
infected, 153-159
treatment of, 147-152, 159-160
plateau of, stress fractures of, 198
shaft of, stress fractures of, 198-201
stress fracture of, joint deformity following, 653
- Tibial articular surface, fractures of, 129-131
classification of, 130
treatment of, 131
- Tibial physis, proximal, fractures of, 133-134
- Tibial stress syndrome, medial, 200
- Tibial tuberosity, injuries of, 128-129
classification of, 128, 129
- Toe(s), great, stress fractures of, 208
- Torsional sports, lumbar spine injuries in, 441-444
- Transchondral fractures, 165
- Tumor(s), soft-tissue, benign, of knee, 720
symptoms in knee in, 677, 670
- Two-fist sign, in diagnosis of anterior cruciate ligament deficiency, 687, 689
- Ulna, fractures of, displaced mid-diaphyseal, 9
isolated, 67, 68
shaft of, stress fractures of, 194
- Ulnar nerve, 314
anatomy of, 366-367, 396-397
compression neuropathy of, 396-399
clinical presentation of, 398-399
differential diagnosis of, 399
pathophysiology of, 397-398
return to sports following, 399
treatment of, 399
problems of, diagnosis of, 369-371
differential diagnosis of, 371
etiology and pathology of, 367-369
historical review of, 365-366
in athletic elbow, 365-377
operative procedure in, 372-373
postoperative rehabilitation protocol in, 374-376
surgical technique in, 373-374
treatment of, 372
- Upper extremity, anatomy of, 378-379
arterial problems in, 379-382
injuries of, rehabilitation of, 68-69
proximal, vascular problems in, 378-387
venous problems in, 382-386
- Vascular problems, in lower extremity, 449-469
in proximal upper extremity, 378-387
- Vascular syndromes, of hand and wrist, 404-408
- Vein(s), of lower extremity, 449, 451
of upper extremity, problems of, 382-386
- Venous thrombosis, axillary subclavian, 382-386
deep, 466-467
as fracture complication, 7
- Wartenberg's syndrome, 400-401
- Water sports, lumbar spine injuries in, 438-439
- Weightlifting, lumbar spine injuries in, 439-440
- Women athletes, stress fractures in, 190
- Wrist, arterial anatomy of, 404-406
compression of radial nerve at, 400-401
neurovascular injuries in, 389-417
sports-related fractures of, 85-109
vascular syndromes of, 404-408
- Wrist extension attachment, in forearm fractures, 70